

# Livestock Watering Practice

**Landowner Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_ **Field #** \_\_\_\_\_

**Completed by:** \_\_\_\_\_ **Checked by:** \_\_\_\_\_ **Approved by:** \_\_\_\_\_

**Date:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Date:** \_\_\_\_\_

\_\_\_\_\_ *Low PSI in pressure tank*  
 \_\_\_\_\_ *Average pressure tank outflow (gpm)*  
 \_\_\_\_\_ *Estimated springflow in gpm(or N/A)*  
 \_\_\_\_\_ *No. of Cattle*  
 \_\_\_\_\_ *Sketch of pipeline location attached*

**CALL BEFORE DIGGING**

**1-800-344-7483**

**MISSOURI ONE CALL SYSTEM, INC.**

## Sizing Pipe for pressure systems:

$$h_f = \frac{\text{Head}}{\text{Distance}} = \frac{\text{Well El.} + (\text{Low PSI} \times 2.31) - \text{Tank El.}}{\text{Distance in Feet}}$$

$$h_f = \frac{(\text{_____}) + ((\text{_____}) \times (2.31)) - (\text{_____})}{(\text{_____})}$$

$$h_f = \frac{\text{Feet of Head}}{\text{Feet of Pipe}}$$

Use  $h_f$  and MLWSH, Chapter 5 (or applicable charts) to determine size of pipe:

Use \_\_\_\_\_ inch diameter pipe

Flow through pipe is \_\_\_\_\_ gpm

## Sizing Tank:

If enough water cannot be provided using a pipeline, size tank reservoir to provide adequate water:

A cow will drink about 5 gallons each trip to the water source. (Use the 5 gallons per drink even for calves and smaller animals). Size the tank for one "drink" for the whole herd:

## Sizing Pipe for spring systems

Use maximum springflow (or provide overflow)

$$h_f = \frac{\text{feet of fall}}{\text{length of pipe}} = \text{_____}$$

Provide water at a rate of not less than 2 gpm times the number of cattle that can drink. For example, a two hole waterer needs at least 4 gpm. Don't exceed 12 gpm without checking output of well and planned tank.

Use \_\_\_\_\_ gpm delivery rate per drinking fountain.

$$\text{Water Needed} = (\text{No. of Cattle}) \times (5 \text{ gallons/drink})$$

$$\text{Water Needed} = \text{_____} \times \text{_____}$$

$$\text{Tank Size} = \text{Water Needed} = \text{_____ Gal.}$$

## Bill of Materials

\_\_\_\_\_ *No. of Tanks*

\_\_\_\_\_ *Freezeproof Hydrants*

\_\_\_\_\_ *Ft. of \_\_\_\_\_ dia. Schedule 40 Pipe*

\_\_\_\_\_ *C.Y. of concrete in pad*

\_\_\_\_\_ *Ft. of Ultraviolet Stabilized Aboveground Pipe*

*Plus plumbing and fitting requirements. Other miscellaneous items listed below or attached*

\_\_\_\_\_ *Tank Description*

\_\_\_\_\_ *Ft. of Fencing*

\_\_\_\_\_ *Ft. of \_\_\_\_\_ dia. Schedule 40 Pipe*

\_\_\_\_\_ *Tons/C.Y. of gravel in pad and base*

\_\_\_\_\_ *Check valve for Rural Water*